(No Model.)

E. J. COLBY.

VENTILATOR.

No. 381,112. Patented Apr. 17, 1888.

Fig. 1.

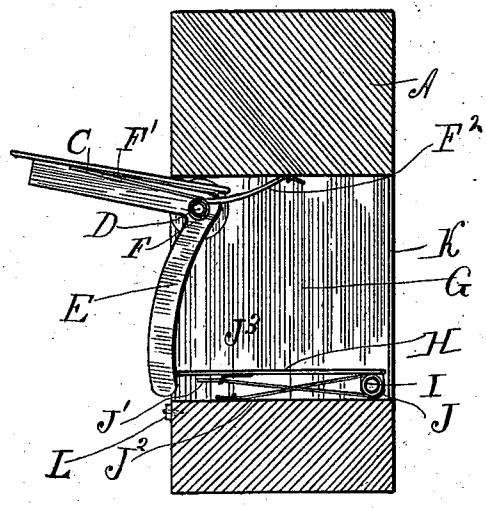


Fig. 2.

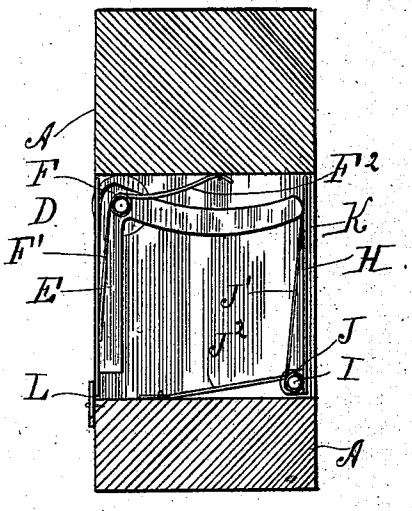
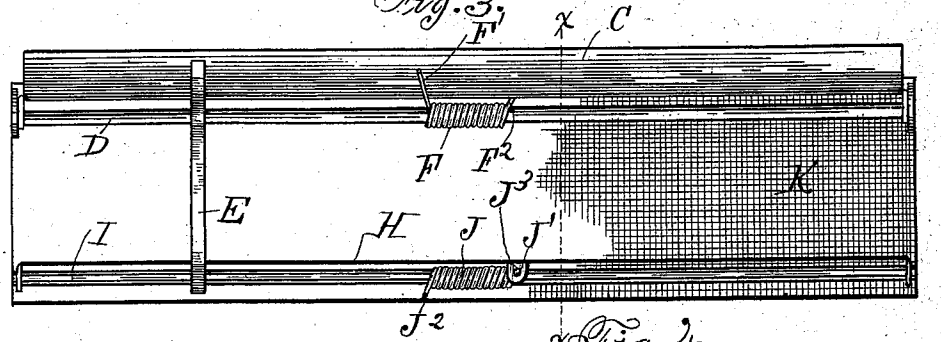
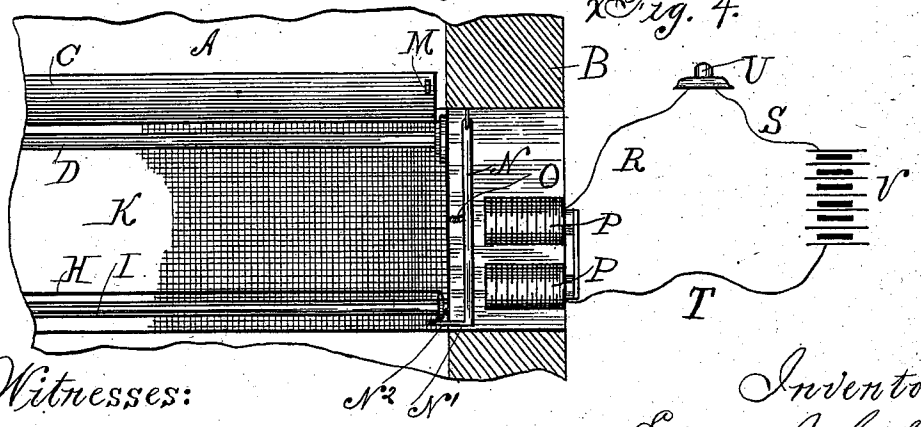


Fig. 3.



x

Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD J. COLBY, OF CHICAGO, ILLINOIS.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 381,112, dated April 17, 1888.

Application filed August 8, 1887. Serial No. 246,395. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. COLBY, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Ventilators, of which the following is a specification.

My invention relates to ventilators, and has for its object to provide a ventilator which may be automatically opened by the use of electricity from a distance, and which is convenient, easy of application, and does not to any great extent mar or disfigure that to which it is applied.

The application of my invention to a window-sash is illustrated in the accompanying drawings, wherein—

Figure 1 is a cross-section through the line *x x* of Fig. 3. Fig. 2 is the same view with the ventilator closed. Fig. 3 is a side view of the ventilator open. Fig. 4 is a detail view of the application of electricity to open or unlock the ventilator.

Like parts are indicated by the same letter in all the figures.

A is the lower end of a window-sash having the side portion, B.

C is the inner valve, journaled on a cross-rod, D, secured to the angle-bar E, also journaled on rod D.

F is a spiral spring coiled around the rod D and having the end F′, which bears upwardly against the valve C, and the end F^2 bearing upwardly against the inner portion of the aperture G.

H is the outer valve, journaled on the rod I, about which is coiled the spring J, having the end J′, which bears against the lower surface of the valve H, and J^2, which is secured to the bottom of the aperture G.

K is a sheet of netting or other similar material fastened across the outer face of the aperture G. The end J′ of the wire J passes into the keeper J^3 on the lower side of the valve H, and the end J^2 is secured to the bottom of the aperture.

L is a button pivoted on the bottom of the window-sash just below the aperture G and adapted to engage the outer lower edge of the valve C, and thus keep the same closed, as shown in Fig. 2. In the modification the parts are the same, except that the button L is removed and the keeper M is placed on the lower inner surface of the valve C. This keeper is adapted to be engaged by the end of the pivoted catch N, which is held toward the same by the spring O.

P P are the coils of a magnet, and R, S, and T wires which form the circuit through said magnet, being connected properly with the push-button U and the battery V.

The spring-catch N operates as an armature-bar, and when a current, by the use of the push-button U, is passed through the magnet the same is drawn toward said magnet, and thus the catch is released. The bar N has an inwardly-turned end, N′, which terminates in the point N^2.

The use and operation of my invention are as follows: When it is desired to admit the fresh air into an apartment by means of my invention, the same having been inserted, as shown and described, in the lower portion of the sash of a window, the button is turned, whereupon the ends F′ and F^2 of the spring F, having the tendency to expand, cause the valve C to be raised into the position shown in Fig. 1, where it is securely held. By so doing the curved leg of the angle-bar E is thrown down into the position shown in Fig. 1, and thus the valve H is relieved from its support and is permitted to fold into the position shown in Fig. 1, this being caused by the tendency of the ends J′ and J^2 of the spring J to expand or open out. In this manner the device is free for the admittance of air, the same passing through the aperture G, and the screen placed in the outside of the aperture to cover the same, if desired, and to prevent the admission of foreign matter. When the ventilator is desired to be placed out of use, it is only necessary to force the valve C against the pressure of the spring ends F′ and F^2 into the position shown in Fig. 2, where it may be locked in place by the button L. By this same action the angle-bar E is raised, carrying with it the valve H, closing the aperture, and expanding the ends J′ and J^2 of the spring J. In this position the ventilator is closed, as shown in Fig. 2. To apply electricity, an aperture is worked out at the side of the aperture G, and in it is pivoted the spring-catch N, being drawn inwardly by

the spring O. This catch is provided with the beveled end N^2, as described and shown in Fig. 4, and as used in the application of electricity to close the aperture. When the valve C is closed, the keeper M engages the end N^2, and thus the valve is held closed. If, now, it is desired to control this ventilator from a distance, it is done by the use of the push-button U. When the circuit is closed by the same, a current will be sent through the magnet-coils P P and the armature N will be drawn upwardly, thus releasing the valve C, when, by the action of the several spring ends above alluded to, the ventilator will be immediately thrown into the position shown in Fig. 1. Of course any number of these devices could be employed and connected with one battery and push-button, so as to be opened simultaneously, and I have even contemplated in certain cases an application of electricity in a similar manner to cause the valves to spring closed; but this I do not show or claim.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

In a ventilator adapted to be applied to an aperture opening both into the exterior and interior of a room, the combination of a flap hinged upon a transverse rod at the inner edge, a similar flap similarly hinged at the outer edge, both provided with actuating-springs, an arm from one which engages and simultaneously operates the other, and a locking device, substantially as described, which retains the whole in position.

EDWARD J. COLBY.

Witnesses:
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